

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
24 July 2003 (24.07.2003)

PCT

(10) International Publication Number  
**WO 03/060952 A1**

(51) International Patent Classification<sup>7</sup>: **H01J 61/36**,  
61/82

(72) Inventors; and

(21) International Application Number: **PCT/IB02/05683**

(75) Inventors/Applicants (for US only): **APETZ, Rolf, T.**,  
A. [DE/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven  
(NL). **MULDERIJ, Ton, R.** [NL/NL]; Prof. Holstlaan 6,  
NL-5656 AA Eindhoven (NL). **BECKERS, Lucas, J., A.**,  
M. [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven  
(NL).

(22) International Filing Date:  
20 December 2002 (20.12.2002)

(25) Filing Language: English

(74) Agent: **DUSSELDORP, Jan, C.**; Internationaal Oc-  
trooibureau B.V., Prof. Holstlaan 6, NL-5656 AA  
Eindhoven (NL).

(26) Publication Language: English

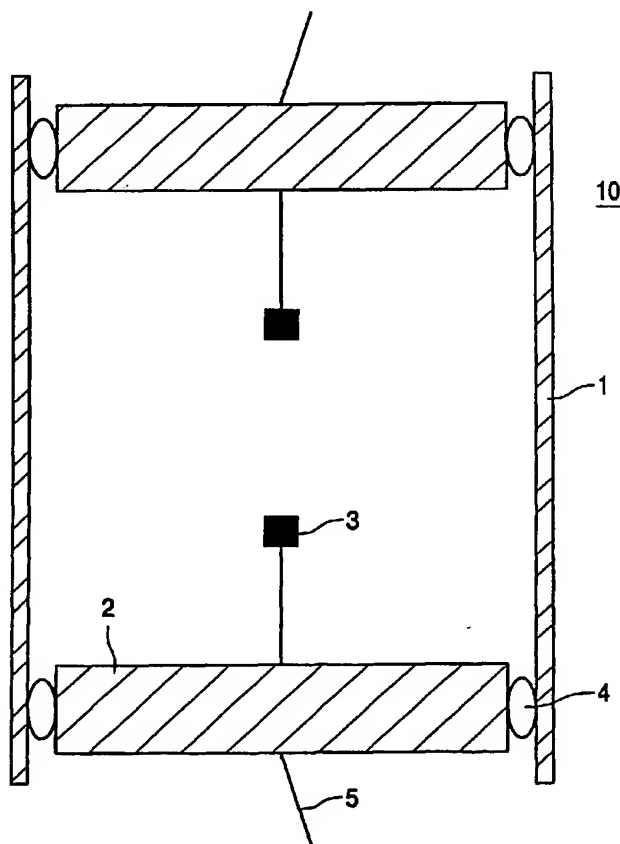
(30) Priority Data:  
02075147.5 15 January 2002 (15.01.2002) EP

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,

(71) Applicant (for all designated States except US): **KONIN-  
KLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];  
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

[Continued on next page]

(54) Title: **HIGH-PRESSURE DISCHARGE LAMP**



(57) Abstract: The invention relates to a high-pressure discharge lamp having a discharge vessel (10) with a ceramic wall (1) which is closed at one end by a plug. The plug (2) is provided with an electrode (3) arranged in the discharge vessel (10). The ceramic wall (1) and the plug (2) are jointed by a fusion joint (4). The fusion joint (4) comprises an alloy comprising substantially molybdenum and aluminum. Preferably, the fusion joint (4) comprises a material selected from the group formed by  $Al_8Mo_3$ ,  $Al_{63}Mo_{37}$ ,  $Al_{63}Mo_{37}$ ,  $AlMo$ ,  $AlMo_3$  and combinations of said materials. Preferably, the plug (2) comprises a material selected from the group formed by molybdenum, tungsten and combinations of said materials. Preferably, the ceramic wall (1) comprises aluminum nitride. According to the invention, the plug (2) has a high corrosion resistance.



SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
VC, VN, YU, ZA, ZM, ZW.

**Published:**

— with international search report

**(84) Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

PCT/IB 02/05683

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01J61/36 H01J61/82

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 181 065 B1 (HUETTINGER ROLAND ET AL) 30 January 2001 (2001-01-30) column 3, line 29 -column 4, line 16 column 5, line 3 -column 8, line 16; figures 1,3	1-7
P, A	WO 02 091428 A (KONINKL PHILIPS ELECTRONICS NV) 14 November 2002 (2002-11-14) abstract; figures 9,10 page 9, line 30 -page 10, line 20; claims 3,5,6	1

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*Z\* document member of the same patent family

Date of the actual completion of the international search

3 April 2003

Date of mailing of the international search report

10/04/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Lang, T

# INTERNATIONAL SEARCH REPORT

PCT/IB 02/05683

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6181065	B1	30-01-2001	DE 19727429 A1	07-01-1999
			AT 230160 T	15-01-2003
			CA 2241714 A1	27-12-1998
			DE 59806681 D1	30-01-2003
			EP 0887839 A2	30-12-1998
			HU 9801467 A2	28-01-1999
			JP 11067155 A	09-03-1999
<hr/>				
WO 02091428	A	14-11-2002	US 2002185973 A1	12-12-2002
			WO 02091428 A2	14-11-2002
			US 2003006705 A1	09-01-2003
<hr/>				